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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/891,606 | 06/27/2001 | Manabu Taniguchi | K06-135818M/TBS | 8823 |

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EXAMINER

TAMAI, KARL I

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| ART UNIT | PAPER NUMBER |
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2834

DATE MAILED: 08/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/891,606

Applicant(s)

TANIGUCHI ET AL.

Examiner

Tamai IE Karl

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The amended title "MAGNETIC BEARING MANAGEMENT AND CONTROL DEVICE" of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The examiner suggest "MAGNETIC BEARING CONTROL DEVICE WITH COUNTER FOR TIMED MAINTENANCE".

Claim Rejections - 35 USC § 112

2. The rejection of Claim 8 under 35 U.S.C. 112, second paragraph, is withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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5. Claims 1, 5, 7, 9-12, and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al. (Oshima)(JP 07-151,146) and Bazarnik (US 4,612,623). Oshima teaches a magnetic bearing with a DSP and counter to shut down the bearings or sound an alarm after a preset time period. It is inherent that Oshima includes a data input device to preset the time period. Oshima does not teach the counted time as the actual work time or a display. Bazarnik teaches equipment can be shut down for maintenance after a preset period of time. Bazarnik teaches the controller 20 comparing the accumulated run time to the run time of the equipment (col. 8, line15). It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the magnetic bearing of Oshima with the timed shutdown of Bazarnik to increase the working lifetime of the bearings with routine maintenance, and with the displays of Bazarnik to increase the information provided at end of the maintenance period.

6. Claims 2, 4, 8, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al. (Oshima)(JP 07-151,146) and Bazarnik (US 4,612,623), in further view of Nakamura (JP 02-176,218). Oshima and Bazarnik teach every aspect of the invention except the DSP inhibiting the activation of the magnetic bearings. Nakamura teaches that the bearing control circuit include a signal that prevents activation of the bearings in poor condition. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Oshima and Bazarnik with a DSP having activation prevention signal because

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Nakamura teaches that the magnetic bearings should not be operated in a poor condition.

7. Claims 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al. (Oshima)(JP 07-151,146) and Bazarnik (US 4,612,623), in further view of Yokoe (US 5,309,075). Oshima and Bazarnik teach every aspect of the invention except the DSP having a timer. Yokoe teaches a DSP 14 with a timer for controlling a magnetic motor. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Oshima and Bazarnik with a DSP having a timer to reduce the number of parts in the bearing control, and because Yokoe teaches that DSP are known to have integral timers.

8. Claims 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al. (Oshima)(JP 07-151,146) and Bazarnik (US 4,612,623), in further view of Yamada et al. (Yamada)(US 6,421,630). Oshima and Bazarnik teach every aspect of the invention except a voice output at the start of the maintenance operation. Yamada teaches the displayed alarm can be either a message on a display, an audible alarm or a voice alarm. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Oshima and Bazarnik with voice output at the start of the maintenance operation to warn that the operational time has expired, because it is within the ordinary skill in the art at the time of the invention to choose between known equivalents, where Yamada teaches the equivalence of the display being audible, voice, or visual.

Response to Arguments

9. Applicant's arguments filed 5/21/03 have been fully considered but they are not persuasive.

The Applicant's argument that Bazarnik is non-analogous art because Bazarnik is limited to fork lifts is not persuasive. Bazarnik teaches the invention is for any equipment which needs maintenance (col. 3, line 133), not just forklifts. It is inherent that magnetic bearings are equipment that require maintenance. The Applicant's argument that the art is non-analogous is not persuasive because both Bazarnik and Ohisma are both concerned with control devices for stopping equipment and triggering repair alarms. The Applicant's argument that the combined teachings of Barzanik and Oshima fail to teach a processor that controls the bearings and compares the time. This argument is not persuasive because the controller 10 of Barzanik both controls the equipment being operated (col. 11, line 34) and monitors the operational time. The Applicant's argument that Bazarnik and Oshima teach separate and independent motor controls is not persuasive because independent and separate controls are not required of the claims, only that the processor controls the bearings. Bazarnik meets this control requirement because the module 10 can prevent activation of the unit being monitored. The Applicant's argument regarding independent and separate units is not persuasive because it has been held that it has been held that since it has been held since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. (See *Nerwin v. Erlichman*, 168 USPQ 177, 179). In the

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instant application, it would be obvious to integrate the maintenance timer into the magnetic bearings controller of Oshima to simplify manufacture and production.

The Applicant's argument that there is no motivation to combine or that the motivation is hindsight is not persuasive because it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In the instant application Bazarnik provides motivation to combine the references because it teaches a maintenance timer for ANY equipment to provide periodic and preventive maintenance. The examiners position is supported by Hansen and Scaringe, where Hansen teaches the chiller system with timed maintenance, and Scaringe shows the chiller system includes magnetic bearings.

The Applicant's argument Nakamura is unrelated to the claimed invention is not persuasive because Nakamura teaches the controller shutting down the magnetic bearings in unsafe conditions. This supports Bazarnik's position of prevention the operation of the equipment in unsafe conditions (that being the need for maintenance), see col. 11, line 34. The Applicant's argument that there is no motivation to combine Yokoe with Oshima and Bazarnik, is not persuasive because Yokoe is a control device for electromagnetic devices. Yokoe is only relied upon to show that controllers include timers, not the function of the timers, which is taught by the primary reference Bazarnik.

The Applicant's argument that Yamada is non-analogous art with no motivation to combine is not persuasive because Yamada teaches the know equivalence of various warning alarms.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ooyama et al. (6307294) teaches a maintenance alarm for magnetic bearings based on temperature sensors. Scaringe teaches a chiller system with magnetic bearings where the controller for the magnetic bearings controls and monitors the magnetic bearings including alarms and warning conditions (col, 15, lines 17-20). Hansen et al. (US 4,539,632) teaches a chiller having a digital programmable counter 32 to determine the maintenance time for the chiller.

Conclusion

11. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (703) 305-7066.

The examiner can be normally contacted on Monday through Friday from 8:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Nestor Ramirez, can be reached at (703) 308-1371. The facsimile number for the Group is (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Karl I Tamai
PRIMARY PATENT EXAMINER
August 22, 2003



KARL TAMAI
PRIMARY EXAMINER